

We claim:

Sub A'7

1. A computer-implemented method comprising:

inputting an aggregatable software object consistent with a predetermined software object framework and having a class identification and one or more interfaces, each

5 interface having an interface identification; and,

associating one of a directory class and a directory attribute to the class identification of the aggregatable software object, as stored in a predetermined location.

2. The method of claim 1, further comprising querying the one of the directory class and the directory attribute to expose the one or more interfaces of the aggregatable software  
10 object.

3. The method of claim 2, further comprising creating an instance of the aggregatable software object upon querying the one of the directory class and the directory attribute.

4. The method of claim 2, further comprising invoking one of the one or more interfaces of the aggregatable software object via the interface identification of the one of the one or  
15 more interfaces.

5. The method of claim 4, further comprising creating an instance of the aggregatable software object upon invoking the one of the one or more interfaces of the aggregatable software object.

Sub A<sup>2</sup>7

6. The method of claim 1, wherein inputting an aggregatable software object comprises:  
creating the aggregatable software object, including assigning the class identification  
to the aggregatable software object; and,  
creating and implementing the one or more interfaces of the aggregatable software  
5 object, including assigning the interface for each interface.
7. The method of claim 1, where the predetermined software object framework  
comprises the Component Object Model (COM) framework.
8. The method of claim 1, wherein the one of a directory class and a directory attribute  
is consistent with one of: Lightweight Directory Access Protocol (LDAP), Novell  
10 Directory Services (NDS), and NT Directory Services.
9. The method of claim 1, wherein the one of a directory class and a directory attribute  
comprises a directory class.
10. The method of claim 1, wherein the one of a directory class and a directory attribute  
comprises a directory class attribute.
11. The method of claim 1, wherein the predetermined location comprises a client  
15 location.
12. The method of claim 11, wherein the client location comprises a registry.

13. The method of claim 1, wherein the predetermined location comprises a server location.

14. The method of claim 13, wherein the server location comprises a directory of the one of a directory class and a directory attribute.

Sub A<sup>3</sup>  
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15. A computer-implemented method comprising:

querying one of a directory class and a directory attribute to expose the one or more interfaces of the one of a directory class and a directory attribute, including one or more interfaces of an aggregatable software object having a class identification previously associated to the one of a directory class and a directory attribute;

10      invoking one of the one or more interfaces of the aggregatable software object via the interface identification of the one of the one or more interfaces; and,  
creating an instance of the aggregatable software object.

16. The method of claim 15, wherein creating an instance of the aggregatable software object comprises creating the instance upon querying the one of the directory class and  
15      the directory attribute.

17. The method of claim 15, wherein creating an instance of the aggregatable software object comprises creating the instance upon invoking the one of the one or more interfaces of the aggregatable software object.

Sub A47

18. A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

inputting an aggregatable software object consistent with a predetermined software object framework and having a class identification and one or more interfaces, each interface

5 having an interface identification; and,

associating one of a directory class and a directory attribute to the class identification of the aggregatable software object, as stored in a predetermined location.

19. The medium of claim 18, further comprising querying the one of the directory class and the directory attribute to expose the one or more interfaces of the aggregatable

10 software object.

20. The medium of claim 19, further comprising creating an instance of the aggregatable software object upon querying the one of the directory class and the directory attribute.

21. The medium of claim 19, further comprising invoking one of the one or more interfaces of the aggregatable software object via the interface identification of the one of

15 the one or more interfaces.

22. The medium of claim 21, further comprising creating an instance of the aggregatable software object upon invoking the one of the one or more interfaces of the aggregatable software object.

23. The medium of claim 18, wherein inputting an aggregatable software object comprises:

creating the aggregatable software object, including assigning the class identification to the aggregatable software object; and,

5 creating and implementing the one or more interfaces of the aggregatable software object, including assigning the interface for each interface.

Sub A57

24. A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

10 querying one of a directory class and a directory attribute to expose the one or more interfaces of the one of a directory class and a directory attribute, including one or more interfaces of an aggregatable software object having a class identification previously associated to the one of a directory class and a directory attribute;

invoking one of the one or more interfaces of the aggregatable software object via the interface identification of the one of the one or more interfaces; and,

15 creating an instance of the aggregatable software object.

25. The medium of claim 24, wherein creating an instance of the aggregatable software object comprises creating the instance upon querying the one of the directory class and the directory attribute.

26. The medium of claim 24, wherein creating an instance of the aggregatable software  
20 object comprises creating the instance upon invoking the one of the one or more interfaces of the aggregatable software object.

27. A computerized system comprising:

a directory;

at least one directory services coupled to the directory;

a directory services interface providing a common abstract interface to each of the at

5 least one directory services; and,

a directory services interface extension providing the directory services interface with  
an extended functionality.

28. The system of claim 27, wherein the directory services interface extension comprises

an aggregatable software object consistent with a predetermined software object

10 framework and having a class identification and one or more interfaces, each interface  
having an interface identification.

29. The system of claim 28, wherein the directory comprises one of a directory class and

a directory attribute, such that the class identification of the aggregatable software object  
is associated with the one of the directory class and the directory attribute, as stored in a

15 predetermined location.